

ABSTRACT

An optimal configuration for at least one antenna and/or at least one frequency selective surface is generated. A configuration of elements is generated by selecting a
5 simple configuration of at least one element and applying a genetic algorithm to the simple configuration to generate a configuration optimized for various characteristics. A stochastic process may be used to randomly select an arrangement of elements as the simple antenna configuration and to select elements that connect the randomly selected
10 elements to produce a stochastic configuration to which the genetic algorithm is then applied. Alternatively, an iterated or semi-iterated process may be applied to the simple antenna configuration to produce a fractal or a semi-fractal configuration, respectively, to which the genetic algorithm is then applied. Also, the elements may be optimized independently.